

Arlene presented the power supply simulation and test results to meet the horizontal tune jump requirements we specified. A test power supply was hooked up to a  $6\mu H$  coil. The overshooting and undershooting problems seen in the test can be reproduced in simulation by parasitic inductances. These problem can be solved. She presented power supply requirements for the pulsed polarized proton quad, 8Q32 with three turn coil and 8Q32 with single turn coil. The 8Q32 with single turn coil is preferred solution since the power supply requirement is modest ( small inductance). According to the simulation, the rise time would be less than  $80\mu s$  and the falling time is about 10% longer. Both meet the requirement of  $100\mu s$ . The coaxial cable is better choice due to the low inductance and low cost. If we are limited by time or budget, one temporary solution is to put a smaller power supply (about a quarter of the required size) in the tunnel without cooling. It can be used to jump tunes for the early part of the ramp. Waldo asked if radiation is a concern (e.g., potential damage to SCR). Although Arlene's group did not use many solid-state circuitry in the AGS ring, RF group does that. The power supply cooling has not been studied yet. The cost and schedule is not discussed here today.

Kevin Smith presented his thoughts on harmonic  $h=6$  operation in the AGS. The motivation of using  $h=6$  is that the lower harmonic number would give less peak current in the AGS so that the space charge effect can be reduced.  $H=12$  for proton probably can be traced back to high intensity run when multi-bunch injection was needed. Mei asked if we could run with even lower harmonic number, such as  $h=4$ . Kevin answered that the lowest frequency of AGS RF system is about 1.7MHz and  $h=4$  will fall short of that. Kevin ran some bbat calculations based on the RF voltages and bunch length measured at injection and extraction (done by Keith). He did not see problem of running  $h=6$  in the AGS. A question is raised if the RHIC injection kicker pulse can handle the longer bunch. Arlene felt that it should not be a problem. With the newly installed 9MHz cavity in RHIC, the RHIC injection matching is less a problem. Mei asked if  $h=6$  can also be used for the injection-on-the-fly scheme, as it is believed to be limited by emittance growth due to space charge. After the meeting, Kevin found out that the current RF synchro scheme does not allow to run  $h=6$  for injection-on-the-fly. It probably still can be done but need some extra work.

Next meeting we will discuss the abstraction submission for SPIN2008, among other things.

Haixin